

hot forming a steel sheet product out of the steel sheet while using the tool;

hardening at least a portion of the steel sheet product to a hardness;

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yielding at least one mild area in the steel sheet product substantially simultaneously with the step of hardening at least a portion of the steel sheet product, the mild area having a hardness substantially less than the hardness of the hardened portion of the steel sheet product; and

forming the at least one mild area in the steel sheet product.—

REMARKS

The Office Action dated August 31, 1998 has been reviewed in detail and the application has been amended in the sincere effort to place the same in condition for allowance. Reconsideration of the application and allowance in its amended form are requested based on the following remarks.

Applicant retains the right to pursue broader claims via a continuing application under 35 U.S.C. §120.

Applicant has provided a unique solution with respect to problems regarding a Method of Producing a Sheet Steel Product such as a Reinforcement Element in a Larger Structure.

Applicant's solution is now claimed in a manner that satisfies the requirements of 35 U.S.C. §103.

Indication of Allowable Subject Matter:

In paragraph 5 of the outstanding Office Action, the Examiner indicated that Claims 17-21 were objected to as depending from a rejected base claim, but would be allowable if rewritten in independent form to include the limitations of their base claims and any intervening claims. For the reasons stated hereinbelow, it is respectfully submitted that broader claim coverage may be available.

Rejection of Claims 11-16 and 22-27 Under 35 U.S.C. §103:

Claims 11-16 and 22-27 were rejected under 35 U.S.C. §103 as being unpatentable over UK patent No. 2,115,728. Specifically, the Examiner stated that:

UK patent '728 teach a steel sheet product manufactured by forging sheet steel to form product, and hardening at least a portion of the steel sheet product, and machining non-hardened softer areas, see lines 17-21 on page 2. Although specifically heating steel sheet to austenitizing temperature prior to hot forming as recited by the claim is not taught by the prior art, such would be inferred because hot formability requires very high temperatures which would be within the austenitizing temperature range.

Although tempering to produce softer area as recited by claim 22 is not taught by prior art, such would not be a patentable difference since tempering is well known in the art and a conventional heat treatment practice to soften steel prior to working or machining and hence would be obvious to incorporate in UK patent '728.

As understood, UK patent No. 2 115 728 teaches the manufacture of vehicle components, especially steering components, for high bending fatigue loads. Specifically, as understood, UK '728 teaches the forging of vehicle components

having a nominal composition of C 0.35 - 0.45; Si less than 0.5; Mn 0.6 - 0.9; Cr 0.7 - 1.1; Mo 0.25 - 0.45; and Ni 1.6 - 2.1; with the remainder iron and normal impurities. After forging, the components are at least partially machined and at least locally heat treated and/or surface hardened (UK '728, page 1, lines 71-75.) The material thus undergoes no significant cold work hardening under load preceding strain and within the strain range (UK '728, page 1, lines 74-80.)

Amended Claim 11 states:

11. A method of making a sheet steel product comprising the steps of:
 providing a steel sheet of a given size;
 providing a tool for holding the steel sheet;
 positioning the steel sheet in the tool;
 heating the steel sheet to an austenitizing temperature;
 hot forming a steel sheet product out of the steel sheet while using the tool;
 hardening at least a portion of the steel sheet product to a hardness;
 producing at least one mild area in the steel sheet product, the mild area having a hardness substantially less than the hardness of the hardened portion of the steel sheet product; and
 forming the at least one mild area in the steel sheet product.

It is respectfully submitted that GB Patent No. 2 115 728 teaches a method for forging a material with a specified composition, and after forging the forged part is machined and locally heat treated and/or surface hardened. To the contrary, independent Claim 11 teaches hot forming a steel sheet product out of a steel sheet, hardening at least a portion of the steel

sheet product to a hardness, producing at least one mild area in the steel sheet product, the mild area having a hardness substantially less than the hardness of the hardened portion of the steel sheet product, and forming the at least one mild area in the steel sheet product.

It is respectfully submitted that GB 2 115 728 shows a method for forging a steel product as opposed to the method of Claim 11 which teaches forming a steel sheet product out of a steel sheet. Therefore, it is respectfully submitted that GB 2 115 728 is non-analogous art to the present invention, as one skilled in the art of forming sheet steel products from sheet steel would not look to the art of forging steel products. Based upon the above, it is respectfully submitted that GB 2 115 728 is not relevant to the present invention. It is therefore believed that amended independent Claim 11 is fully distinguishable over GB 2 115 728.

In view of the above, reconsideration and withdrawal of the rejection against Claim 11 is respectfully requested.

Newly presented independent Claim 28 will now be addressed with respect to the rejection under 35 U.S.C. §103.

Newly presented independent Claim 28 states:

28. A method of making a sheet steel product comprising the steps of:
providing a steel sheet of a given size;
providing a tool for holding the steel sheet;
positioning the steel sheet in the tool;
heating the steel sheet to an austenitizing

temperature;

hot forming a steel sheet product out of the steel sheet while using the tool;

hardening at least a portion of the steel sheet product to a hardness;

yielding at least one mild area in the steel sheet product substantially simultaneously with the step of hardening at least a portion of the steel sheet product, the mild area having a hardness substantially less than the hardness of the hardened portion of the steel sheet product; and

forming the at least one mild area in the steel sheet product.

As discussed above, with respect to independent Claim 11, GB 2 115 728 is believed to be non-analogous art with respect to the present invention, as disclosed in Claim 28. It is therefore believed that newly presented independent Claim 28 is allowable with respect to GB 2 115 728.

However, arguendo, even if GB 2 115 728 is found to be analogous art to the present invention, it is respectfully submitted that Claim 28 distinguishes over GB 2 115 728. It is respectfully submitted that nothing in GB 2 115 728 teaches or suggests hardening at least a portion of the steel sheet product to a hardness, yielding at least one mild area in the steel sheet product substantially simultaneously with the step of hardening at least a portion of the steel sheet product, the mild area having a hardness substantially less than the hardness of the hardened portion of the steel sheet product, and forming the at least one mild area in the steel sheet product. To the contrary, as understood, GB 2 115 728 shows forming the component by forging, and heat treating and/or surface hardening after forging

the product. It is therefore believed that even if ^{arguendo} GB 2 115 728 ^{af} 11-30-98 is analagous art to the present invention, independent Claim 28 nevertheless fully distinguishes over GB 2 115 728.

Claims 12-27 have been amended herein to depend from what is believed to be an allowable Claim 28 as discussed above. It is therefore believed that Claims 12-27 are also allowable based upon this dependence.

In view of the above, reconsideration and withdrawal of the rejection under 35 U.S.C. §103 is respectfully requested.

Rejection of Claim 11 Under 35 U.S.C. §112, Second Paragraph:

Claim 11 was rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner indicated that the fourth to last line in Claim 11 was confusing and awkwardly recited. The Examiner suggested that "at least a" be replaced with --hardened--. In response thereto, Claim 11 has been amended herein to replace the phrase "at least a" with --hardened--, as suggested by the Examiner.

In view of the above, reconsideration and withdrawal of the present rejection are respectfully requested.

Art Made of Record:

The prior art made of record and not applied has been carefully reviewed, and is submitted that it does not, either taken singly or in any reasonable combination, with the other

prior art of record defeat the patentability of the present invention or render the present invention obvious. Further, Applicant is in agreement with the Examiner that the prior art made of record and not applied does not appear to be material to the patentability of the claims currently pending in this application.

In view of the above, it is respectfully submitted that this application is now in condition for allowance, and early action towards that end is respectfully requested.

Summary and Conclusion:

It is submitted that Applicant has provided a new and unique Method of Producing a Sheet Steel Product such as a Reinforcement Element in a Larger Structure. It is submitted that the claims are fully distinguishable from the prior art. Therefore, it is requested that a Notice of Allowance be issued at an early date.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Nils H. Ljungman". The signature is fluid and cursive, with the first name "Nils" and last name "Ljungman" clearly distinguishable.

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